



M1&M1 Plus

Delivering automotive-grade lidar for smarter, safer vehicles



The M series deliver highly reliable 3D environment perception performance to ensure the safety of ADAS and AD systems.

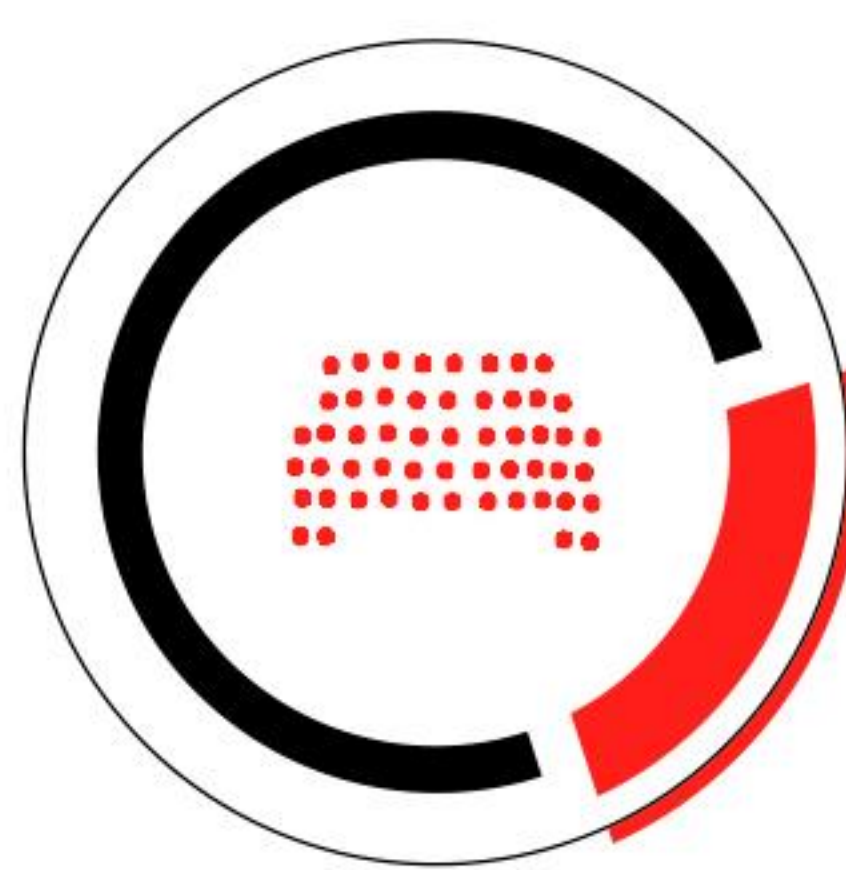
The M series has passed more than 36,000 hours of high-temperature durability tests, 24,000 hours of high-temperature and high-humidity tests and other test verifications. M series achieved an annual output of one million units at the RoboSense's smart manufacturing cluster.

The M series has a unique "GAZE" function to improve the perception of the intelligent driving system, which can dynamically adjust the resolution and frame rate based on different driving scenarios. The M series has been nominated by nearly 20 leading OEM, including BYD, GEELY, Great Wall, Lotus, SAIC, FAW, BAIC and Lucid.

Product Advantages



Automotive Grade



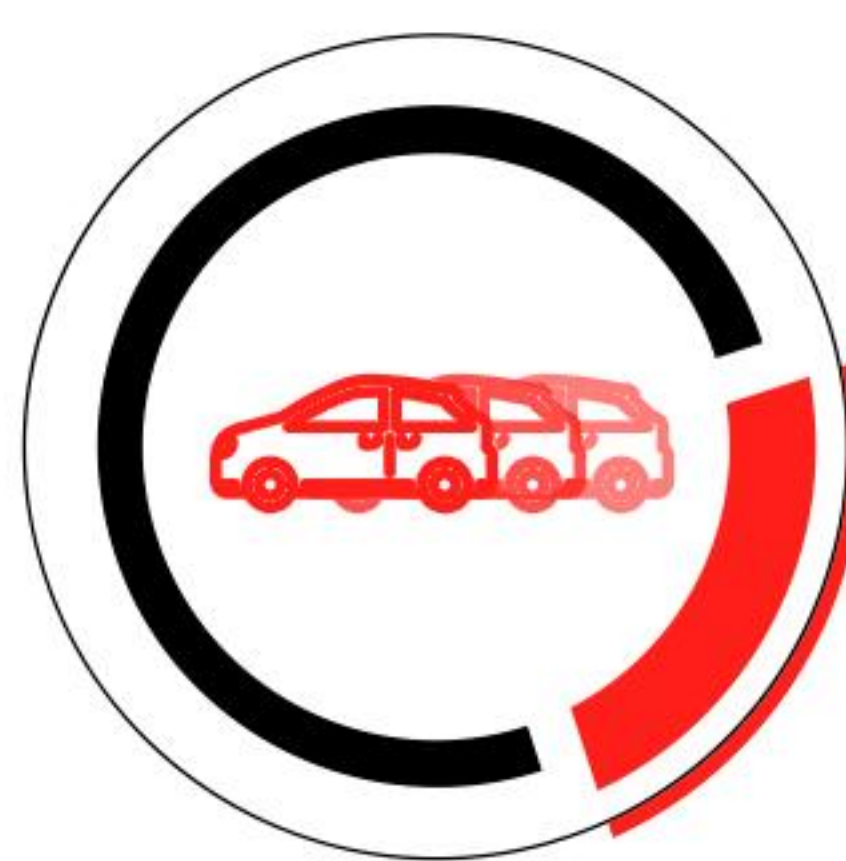
Dynamically Adjustable Vertical Resolution



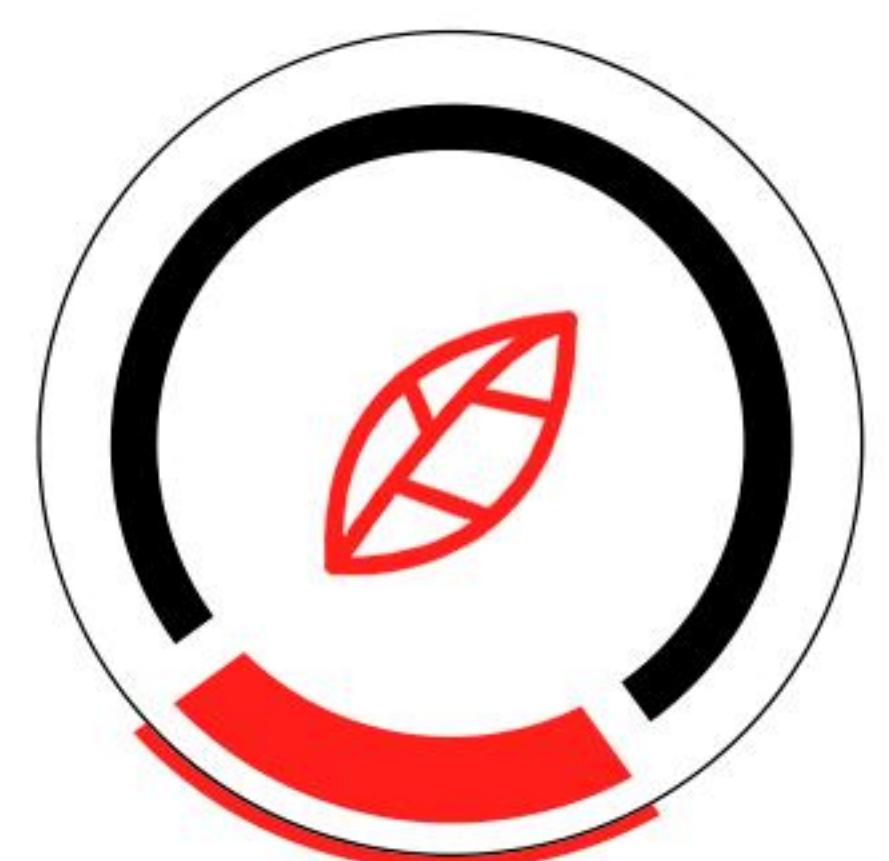
≥ 200m Measurement Range



Compact Size



Dynamically Adjustable Frame Rate



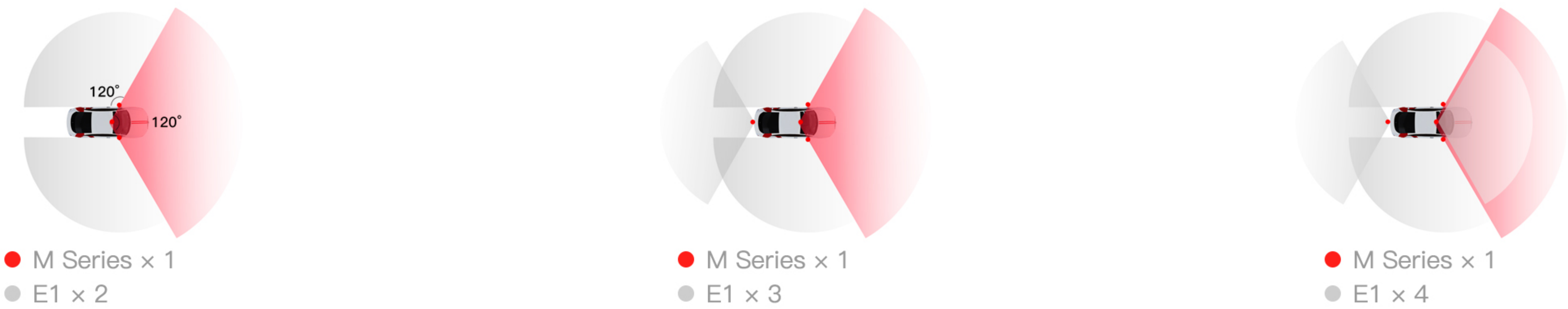
Low Power Consumption

Sensor		
Sensor	M1	M1 Plus
Laser Wavelength	905nm	905nm
Laser Safety	Class 1 eye safety	Class 1 eye safety
Range ⁵	200m (150m@10% NIST)	200m (180m@10% NIST)
Blind Spot	≤0.5m	≤0.5m
Range Accuracy (Typical) ²	5cm	5cm
Horizontal FOV	120°	120°
Vertical FOV	25°	25°
Horizontal Resolution	Average 0.2°	Average 0.2°
Vertical Resolution	Average 0.2°	Average 0.2° (ROI: Average 0.1°)
Frame Rate	10Hz	10Hz

Output		
Points Per Second	787,500pts/s (Single Return Mode) 1,575,000pts/s (Dual Return Mode)	787,500pts/s (Single Return Mode) 1,575,000pts/s (Dual Return Mode)
Ethernet Connection	1000Base-T1	1000Base-T1
Output	UDP packets over Ethernet	UDP packets over Ethernet
UDP Packet include	Spatial Coordinates, Intensity, Timestamp, etc.	Spatial Coordinates, Intensity, Timestamp, etc.

Mechanical / Electrical / Operational		
Operating Voltage	9–32V	9–16V
Power Consumption ³	15W	15W
Weight (without cabling)	750g±50g	690g±50g
Dimension	108mm(D)x 110mm(W)x 45mm(H)	111mm(D)x 110mm(W)x 45mm(H)
Operating Temperature ⁴	–40°C ~ +85°C	–40°C ~ +85°C
Storage Temperature	–40°C ~ +105°C	–40°C ~ +105°C
Time Synchronization	gPTP, PTP	gPTP
Ingress Protection	IP67、IP6K9K	IP67、IP6K9K

Deployment Recommendations



1. The following data is only for mass-produced products. Any samples, testing machines and other non-mass-produced versions may not be referred to this specification. If you have any questions, please contact RoboSense sales.

2. The measurement target of accuracy is a 50% NIST diffuse reflectance target under 100 klux light.The test performance is dependent on circumstantial factors, including temperature, range, target reflectivity and other variables.

3. The power consumption is tested under 10Hz frame rate (while the RS-LiDAR-M1 Simple is under 15Hz) . The result is depending on circumstance factors, not only temperature, range and target reflectivity but also including other uncontrollable factors.

4. The operation temperature is depending on circumstance factors, not only sun load and air flow but also including other uncontrollable factors.

5. The detection range is measured under 100 klux light.The range performance is dependent on circumstantial factors,including temperature, range, target reflectivity and other variables.